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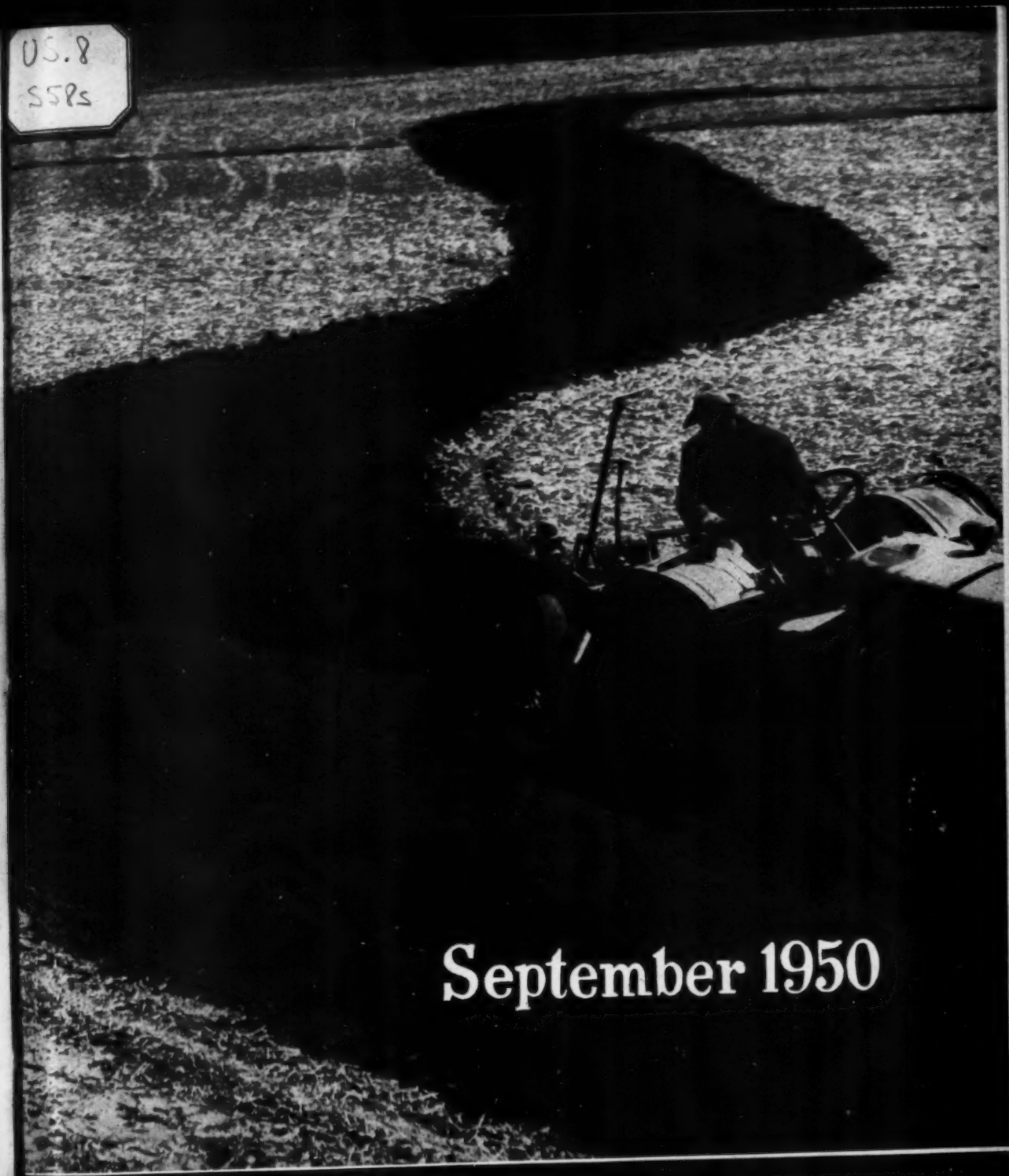

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☆ THIS MONTH ☆

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WELLINGTON BRINK
Editor
Art Work by
W. HOWARD MARTIN

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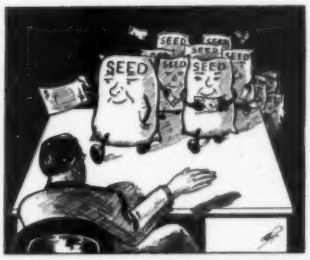

SEED ALONE PAYS BILL.—Supervisors of the Northeast Alabama Soil Conservation District report that seed harvested in 1949 from three new "crops brought to the district by the Soil Conservation Service" for observational plantings since 1944 had a value in 1949 alone of $217,000.

This was more than 2½ times as much as was spent by the Service in 1949 for direct assistance to the district, including salaries of the district and work unit conservationists and all other permanent personnel and aids, office rent, equipment, and other direct assistance.

A good portion of the seed was used by farmers for increasing the acreage of these perennial or reseeding annual crops, which will mean a still larger acreage that can be harvested for seed this year.

Largest value of seed harvested was for Suiter's grass (Kentucky 31 fescue). The 315,000 pounds of seed harvested at current prices are worth $157,000. Seed for the first planting of this new grass was furnished to the district from SCS regional nurseries as a part of the program to estab-

(Continued on page 41)

FRONT COVER.—This is the fourth round in the construction of a terrace in Illinois. It is a part of the farmer's complete soil and water conservation plan, is designed to check water runoff, save soil, and hold moisture for use when needed.

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The 18-inch grain sorghum stubble left on this field prevented any serious soil blowing last spring even during winds of 65 to 75 miles velocity.

DUST BOWL SITUATION IS REVIEWED

By CYRIL LUKER

Fence-row drifts appear where soil and water conservation practices have not been followed. If moisture had been conserved to give good crop growth, and sufficient crop stubble had been left and protected, drifting like this would have been prevented.

THE use of soil and water conservation practices undoubtedly has prevented the return of full-fledged Dust Bowl conditions to a large portion of the Southern Great Plains this year.

But the situation is critical over the old Dust Bowl area of the "dirty thirties." Drought, which has prevailed over most of the Plains country since last fall, has caused wheat-crop failure on thousands of acres, and a very short harvest generally. This means that there will be little wheat stubble to protect the soil against blowing next winter and spring. The drought, if it continues, also will lessen the chances of producing good grain sorghum crops that would provide residues for wind-erosion protection during the next blow season.

NOTE.—The author is regional director, Soil Conservation Service, Albuquerque, N. Mex.

This farm has been severely damaged by wind erosion. Soil drifts or hummocks have formed in field and drifts developed at fences. This field was cultivated in straight rows, the crop stubble was cut very short, and even this slight protective cover was grazed heavily. The farmer is a vigorous objector to the use of soil and water conservation practices.

The worst dust storms since the thirties have swept over the Plains country this year. It is estimated that around 2,500,000 acres in the old Dust Bowl area have suffered moderate to severe wind-erosion damage while an even larger acreage was subject to slight soil blowing.

There has been little or no damage to lands where proper soil and water conservation practices have been followed. On grain sorghum fields where stubble 12 to 14 inches high was left at harvest, protected against grazing and not plowed under, there was little soil blowing this year. The same was true where a stubble from last-year's wheat crop was left standing for fallow, and where wheat, even though killed by drought, was not grazed off or plowed under.

The continued breaking out of sod land unsuited for cultivation has greatly increased the wind-erosion hazard. It is estimated that since the start of World War II, approximately 3,000,000 acres of grassland, at least 60 percent of which is not suited for continued cultivation, have been plowed. Too, a large portion of this area is owned by nonresidents who have been willing to gamble against the danger of wind erosion because of the high price of wheat.

Perhaps the most important question now is whether these absentee owners are going to take proper measures to protect their fields against blowing. Some local residents think these so-called "suitcase farmers" will try to halt wind erosion, but others are skeptical. The doubters say that many of the absentee owners have harvested several bountiful crops that have paid them a handsome profit, and may be reluctant to sacrifice these gains if there are successive crop failures. Any abandonment of land can only intensify the soil-blowing-control problem that may be faced by resident farmers.

However, not all of the soil blowing can be attributed to improper land use on the part of absentee owners. A lot of resident farmers also have

The owner of this farm is a conservation leader in his neighborhood. He uses terraces and contour farming for moisture conservation, and high stubble is left on fields at harvest and protected against grazing. The modern farmhouse in the background tells his success.

Millions of acres in Southern Great Plains that are unsuited for cultivation should be put back to grass. Many farmers are reluctant, however, to return to grass as long as there is moisture enough to produce wheat. Then, when drought comes, as it now has, the reseeding of grass is difficult. This old cultivated field was drilled to grama in 1941, and now is adequately protected against both wind and water erosion.

been willing to gamble on quick riches from high-priced wheat, and have broken out sod land that is unsuited to permanent crop farming.

Soil and water conservation practices are being applied on more land in the old Dust Bowl area this year and have proved their value as never before.

Unfortunately, there still are some farmers in the area who permit all-important moisture to run off their land, graze their stubble fields, and otherwise misuse their land. These farmers not only are allowing erosion to destroy their land, but also are permitting their blowing soil to damage the fields of neighbors who are following conservation practices.

The most important job now, of course, is to get a protective cover back on lands that have been blowing. Contour farming, with terraces where needed, and other water conservation practices, should be used to hold all available moisture for crop growth.

Where the wheat crop failed this year, fields should be planted to grain or forage sorghums and a high stubble should be left on the land for protection against soil blowing next winter and spring.

Of course, land unsuited for cultivation should be put back to grass as soon as possible. However, this is extremely difficult during dry periods when soil blowing is serious.

Heavy rain this summer and next fall is the only thing that can prevent a return of Dust Bowl conditions next year. But rain alone will not do the job. All moisture must be conserved for growing crops that will provide stubble and straw, and these residues must be properly managed if wind erosion is to be controlled and return of the Dust Bowl averted.

WINDS CAME AND SAND BLEW

By RAYMOND A. HIGGINBOTHAM

EMMETT HOBSON had been getting along fairly well with his 160-acre farm near Dickens, Tex. To be sure, the land was badly eroded when he bought it in 1947 but the price was reasonable and he had been able to complete payments by selling his mineral rights. He became a cooperator of the Duck Creek Soil Conservation District. He lost no time planning and starting application of a coordinated soil conservation program to control erosion and build up productiveness. He had the help of SCS technicians.

Of course it was going to be a slow, uphill fight to make such abused and badly eroded and depleted land profitable again. But Hobson was young and industrious, and he realized the value of using the land for what it can produce best and most safely and in treating it to keep it permanently productive. Hobson's prospects were good.

Emmett Hobson and SCS man Raymond A. Higginbotham view sand piled on county road bordering Hobson's farm. It blew from a 35-acre field left without protection against wind erosion.

Then he made a mistake, which he freely admits. He ignored the recommendations of his conservation plan. After grazing 35 acres of Sudan

NOTE.—The author is with the Soil Conservation Service at Spur, Tex.

planted in the spring of 1949, he one-wayed the field in September to prepare a seedbed for fall sowing of rye and vetch. He gambled on weather! "I was sure there'd be enough rain to get the vetch and rye up to a good cover before the wind started."

Hobson guessed wrong. There was not enough rain even to plant the rye and vetch. The sandy soil was loose and in perfect condition to blow when the inevitable 1950 winter winds came. Great clouds of what little topsoil was left billowed out across the county road bordering the farm, settled on other farms, or soared high into the air to mix with soil blowing from other areas.

The soil from Hobson's field piled up in big drifts along the fence and in the county road. Three or four times the road had to be cleared of sand so that cars could get through. The large banks of sand along the shoulders of the road also had to be removed.

"I told a county commissioner that I surely would like to have that sand spread back on my field," Hobson commented. "That's good topsoil and I didn't have any too much to start with. I'm going to remove the field fence so that a grader can push the sand back on my land."

Hobson has learned his lesson. He said: "There ought to be a law against selling one-way plows to farmers on sandy-land farms." He was only joking, of course, for he knows that one-way plows have a proper place even on sandy-land farms.

From now on, he is going to stick close to the conservation plan he drew up with the help of the Soil Conservation Service technicians. He said: "I'm going to sow the field to Sudan again this spring. Then I'm going to sow the rye and vetch, using phosphate as fertilizer, in the Sudan stubble next fall. No more one-waying for me. And no more gambling with weather. The rain might not come but sure as shooting the wind will."

Hobson still has good prospects of making a profitable venture out of his farm. But it's going to take a little longer now.

SOIL-CONSCIOUS BANK.—In its annual statement the Farmers State Bank of Manawa, Wis., says: "This bank has set up procedures to enable farmers to secure soil conservation loans. The future of our community depends on the productivity of the land in our area."

The bank held a soil conservation clinic in 1949 in cooperation with the Waupaca Soil Conservation District. Over 400 farmers attended. It's to be an annual event.

DISTRICT PROFILE

BARTE of NEW MEXICO

Lee G. Barte is one of the most unusual persons in soil conservation in New Mexico.

Less than 2 years ago, Lee was a civil-engineering student in the University of New Mexico and planning a career in this field. All he knew about soil conservation at that time was what he had picked up from his father, who was secretary-treasurer of the Tijeras Soil Conservation District near Albuquerque.

When the elder Barte died in November 1948, Lee decided to forego his engineering degree, which was less than a year away, and take over the management of the family dairy.

Young Barte was named immediately to succeed his father as secretary-treasurer of the Tijeras district. He rolled up his sleeves and went to work studying the district's problems. In February 1949 he was appointed to the executive committee of the New Mexico Association of Soil Conservation Districts. In September of that year he served as general chairman of one of the largest "Farm-in-a-Day" programs ever undertaken. Next, he was program director for the 1950 New Mexico association meeting. Then, when the past president declined renomination, Lee Barte was selected by acclamation.

Today, at the ripe old age of 25, Barte is the youngest district supervisor in New Mexico, and undoubtedly the youngest State association president in the country.

Lee was but 4 when the elder Barte sold his purebred Holstein dairy and breeding business in Watertown, Wis., and came to Albuquerque to set up a dairy. As a boy, young Barte became thoroughly acquainted with the chores which start on a dairy farm around 4:30 and are not finished until around 7:30 to 8 at night.

He was graduated from the Albuquerque High School in 1941. As a 4-H Club member, Lee was high-point man on the county livestock judging team and won a trip to the Western Livestock Show in Denver. Pearl Harbor came a few months after he enrolled in the University of New Mexico.

On completing his freshman year, Lee entered the Naval Officers Training Corps, was commissioned an ensign in February 1945, and sent to the South Pacific with the amphibious forces. As commanding officer on an LST, Barte was at Okinawa and took part in the closing campaign in the Philippines. He then went to Japan with the initial occupation forces.

Returning home in July 1946, Barte, already with a degree in naval science, decided to study civil engineering. He was married in January 1947, and now has two daughters, ages 2½ years, and 11 months.

In 1948 he won the NBC–sponsored "RFD America" radio contest in New Mexico and finished second in the national contest in Chicago, taking $800 in prizes.

When his father died, Lee didn't hesitate to take over the dairy, which is one of the three independents left in the Albuquerque area. The father, who had been a leader in the formation of the Tijeras Soil Conservation District, already had a soil and water conservation program well under way on the 70-acre farm.

Originally, the Barte farm had only 7 acres in cultivation, the rest being swampy and very unlevel. Young Barte picked up the conservation program where his father left off. Today, the entire farm is level and can be irrigated within 24 hours, without watching, because of the improved irrigation system. Alfalfa and corn supply all the roughage needed for the 50 head of Holstein cows that are milked the year round. A program of permanent irrigated pastures of Ladino clover and orchardgrass has been started. Eight acres already are in pasture and another 25 acres will be seeded. The first cutting produced 2½ tons of hay to the acre, and Barte figures that he should get 10 tons annually from land that is little better than average.

A pond, designed for overnight storage of water for irrigation, also provides fish and recreation. It was stocked with fingerlings 2 years ago, and now is yielding 3½-pound bass. A ½-acre windbreak around the farm site provides protection from westerly winds.

But Lee Barte's conservation activities are not confined to his own farm. When the Sisters of St. Anthony Boys' Home, on the outskirts of Albuquerque, asked assistance of the county agent and the SCS district conservationist in the summer of 1949, a Farm-in-a-Day demonstration was proposed.

Lee G. Barte.

A meeting of representatives of Friends of the Land, the chamber of commerce, civic organizations, the county agent, the Tijeras district, and SCS was called. It was decided that the 80-acre farm would be completely remade in a day; the land was to be leveled, a modern irrigation system installed, and pastures seeded for the dairy herd. All buildings would be repaired and repainted, new barns built, and recreational facilities improved for the 300 orphan boys of the home.

Lee Barte was named general chairman. For 7 weeks he worked practically day and night, actually at the expense of his own farm work.

But the demonstration was a huge success. More than 1,000 skilled craftsmen donated labor, and machinery worth a million and a half dollars was used. Rain caused the affair to be continued into the second day, but between 50,000 and 60,000 persons visited the farm to watch the biggest soil conservation job ever undertaken in New Mexico.

Upon being named president of the New Mexico

(Continued on page 41)

NORWAY HAS PROBLEMS, TOO!

By DR. AASULV LØDDESØL

THE total area of Norway is 125,258 square miles. Of this, 5,798 square miles are occupied by lakes, 4,310 square miles are in agricultural land, and 28,951 square miles are in productive forest. About 48 percent of the total lies above the forest limit. These mountain areas consist partly of snow and ice fields, but mainly of rock more or less covered by morainal soil, locally formed mineral soil, or bog formations.

Norway is a very long country. North to south, it reaches from 71°11′ to 57°57′. The straight line from the North Cape to Lindesnes measures 1,091 miles, or about the distance from Lindesnes to Rome.

A rugged country, Norway's surface soil is liable to destruction by landslips, erosion, and similar forces. Rainfall and temperatures have a wide range of variability. We have, for instance, the typical coastal climate of western Norway, where there is little difference in summer and winter temperatures and where precipitation totals up to 10 feet a year. We also know the typical inland climate of our dales and highlands, characterized by little rainfall (about 12 inches), warm summers, and cold winters. Farthest north there is the long, dark winter night, when the sun does not show above the horizon from December till February. To compensate, this region has a short but hectic summer, with midnight sun, and at times, forcing, warm weather for 2 or 3 months in the middle of the summer.

With this short background, we shall take a look at the problems confronting us in Norway with regard to the conservation of the surface soil from destruction.

As we know, soil destruction may arise from *natural* as well as from *social* causes. Natural causes are generally attributable to topography, climate, and the like; while social causes, as a rule, derive from over-population or from the ever-growing pressure of continuously increasing population. In Norway, where the population is approximately 3,000,000, or about 25 per square mile, one might think that population pressure could not exist, but such is not the case. Also, in our country there are densely populated places where the inhabitants have few natural resources, such as soil and forest. This is especially so in the coastal districts of the western country (Vestlandet) and of northern Norway (Nord-Norge), where the lack of forests for fuel supplies is bady felt. Here, peat has throughout the ages been utilized for fuel, and this in the long run has caused considerable

Cultivated plots in a steep valley strongly exposed to erosion. From Sunndal in Möre and Romsdal County. (Photo by Løddesøl.)

NOTE.—The author is director of the Norwegian Peat Society and chairman of the Soil Conservation Committee of the Norwegian Department of Agriculture. This article is based on a paper which was presented at the United Nations Scientific Conference on the Conservation and Utilization of Resources, held at Lake Success, N. Y., August 17 through September 6, 1949.

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destruction of soil. This is both an economic and a social problem. Economic conditions have been, and in some parts are still, so restricted that the people cannot afford to buy fuel elsewhere. Therefore, the sparse surface soil has to suffer by being utilized for fuel.

Among natural causes, landslides or slips first come to mind.

The marine clay deposits in southeastern Norway (Østlandet), in the Trondheim districts, and in some valleys in northern Norway are very subject to slides which cause much destruction. Our largest landslide in historic times was the one in Vaerdalen near Trondheim in May 1893, when about 740 acres of soil subsided, slid, and raced towards the bottom of the valley. About 2,116 acres were flooded and covered with slushy clay. The bulk of the washed-out clay has been computed at 72,000,000 cubic yards. Twenty-six farms were totally destroyed, and 100 farms more or less damaged. Two hundred fifty people lived on the subsided land, and 112 of them were killed.

Such landslides as this are known in Norway as clay slides. The soft clay substratum slides away and, together with the firmer ground on top which breaks up into floes and patches, is carried at great speed down the sides of the valleys towards rivers, lakes, or fjords. The whole mixture becomes a surging slush that destroys everything in its way.

Destructive clay slides frequently destroy a good deal of productive land and cause other damage. According to Holmsen, the cause of such clay slides must be sought in the variations of the contents of salt and water in the clay. Hydrostatical measurement of underground water in clay deposits shows that the content of water varies with the seasons and the rainfall.

Clay slides are, in other words, the floating away of large masses of clay which contain a high percentage of water. They occur where the substratum of "kvikleire" (quick-clay) finds an outlet. As a result the ground fails to support the overlying masses of soil, which sink down and float away on a stream of slush.

Landslides or slips also occur along rivers and streams, where, because of the swiftness of the current, the water cuts into the banks, causing unsupported portions to subside and slide out.

Landslides also occur around ponds and lakes, especially after measures have been taken to lower

Soil erosion on a bog in Kornstad district, Möre and Romsdal County. (Photo by Holmsen.)

the surface with a view of securing more arable land. When rivers are being regulated or lakes lowered, attempts are made to prevent loss of soil by building embankments on both rivers and canals, where falls or slides of ground are feared. Unfortunately, it is not always possible to predict where such slides will occur and, consequently, year by year some soil is lost in this way.

Avalanches and rock slips and the cracking and collapse of steep mountainsides result not infrequently in loss of soil, forest, or buildings in narrow mountain or fjord valleys, especially in the western part of the country. Such natural catastrophes are hard to prevent in a country like Norway, with its wide variety of landscape formations.

Other types of soil loss occurring in Norway have been classified by Røyset under the following five headings:

1. Natural shrinkage by drainage of swamp land.
2. Natural waste by liming, fertilizing, and tillage.
3. Waste of soil by weeding and by removal with potatoes and root crops.
4. Loss of fine-grained soil by strong wind—so-called dust storms.
5. Loss of soil by erosion.

For the subsidence of cultivated bog soil at Stend Agricultural School in Hordaland County, Byrkjeland has noted quite considerable figures—nearly 5 feet—in the course of about 65 years. He has also collected statements from farmers in 33 parishes in Hordaland, and on the strength of this material he has arrived at an average loss of about 0.8 inches per year by ordinary cultivation, rotating between open crops and meadow. The necessity of digging fresh drains after about 30 years, the cropping up of stumps, stones, and rocks in the humus layer, and the loss of land at the edges of the bogs result in reduction both in amount and quality of arable land. Where the bogs rest directly on top of rock or on gravel with large stones, this form of waste of soil is most damaging.

Where the underlying ground is not cultivable, the depth of the bog soil to be brought under cultivation should be over 3 feet, especially if it is intended for very open-standing crops. For pasture or permanent meadow one may, however, undertake the cultivation of somewhat shallower bogland, even though the lower layer may not be

Reforestation in the coastal districts of western Norway (Hjelma in Hordaland County). A 34-year-old plantation of Pinus múgo Turra (Pinus montána Mill). (Photo by Løddesøl.)

tillable The degree of firmness is an important consideration.

It is often difficult to distinguish between the separate forms of loss of soil tabulated by Røyset as 1, 2, and 3. One may say that the notes taken by Byrkjeland comprise in one total all these three forms of soil waste.

The form of soil wastage mentioned under point 4 as dust storms is particularly noticeable under the conditions of our western districts. Soil wasting during dry periods with strong wind occurs both in the spring and during black frosts in winter, but is generally limited to minor areas. On farms in parishes particularly exposed to northerly or southeasterly winds, which are worst in the spring, the dust storms may result in topsoil being blown off the fields. From the district near Stadlandet in Sogn og Fjordane County, where the surface is of fine sandy soil more or less mixed with humus, the corn or potato fields after only a few years of cultivation lay several centimeters lower than the surface of the surrounding meadows. Sandy soils are most liable to suffer from dust storms as they quickly become dry on top. Typical bog soil and mould are less liable to be damaged by wind, as they retain moisture better.

Deterioration of the surface soil caused by dust storms is difficult to avoid entirely. Keeping light sandy soils under grass will help somewhat. Tillage must also be carried out in a way that does not waste the moisture.

The loss of soil by erosion will vary greatly from one locality to another, according to topography and the amount of snow and rain. Among the causes of great loss by erosion in the western part of the country is also the fact that the soil

is often not frozen in the winter, and that most of the winter downpour takes the form of rain or sleet. The washing away of fine-grained material from bare fields is therefore continued during the winter when the soil in most other parts of the country is frozen hard and covered with snow and consequently protected against erosion.

There has been no comprehensive investigation regarding the quantity of soil lost by erosion. Røyset, however, has made some observations which show that the loss by erosion in the western country may become considerable in the course of the winter season. For one thing, he has found that the loss increases with the increase of the angle of slope, and that it consists of light humus particles and fine sand. During the period November to May 1946–47, he noted a loss of 0.12 percent of the depth of the plow furrow in a field of bog soil with a slope of 1 in 40 to 50. In a field of sandy soil, rich in mould, with a slope of 1 in 12, he noted a loss of 0.22 percent of the depth of the furrow. The rainfall during this period amounted to 637 millimeters—somewhat less than usual.

What can be done, then, to prevent erosion of soil in western Norway? As mentioned before, the causes are principally topographic and climatic, but the extent of the loss of soil also depends on the scheme of farming. If the fields are much under open crops and little under grass, the loss will be great. Naturally, some potatoes, root crops, grain, and vegetables for consumption on the farm must be grown in the west, too, but the seasons of open crops must be few—preferably not over 2 or 3 years at a stretch; meadows or cultivated pasture may be kept going long—well up to 10 or 12 years—without turning the soil. With the abundant rainfall there, it is not at all difficult to keep the meadows yielding plentifully by means of manuring.

With regard to the actual tilling, it may be mentioned that unplowed potato fields have proved particularly liable to erosion. In the years when the soil is used for open crops, the plowing should be done in the autumn and, preferably, across the slope. Some soft soil will, of course, be washed off the top edges of the upturned sods, but this will gather in the furrows and will not be carried away. During the spring tilling it will again be worked into the plowed-up stratum. In very steep places the whole of the plowed-up layer of soil may slide downhill during heavy rains, but such steep slopes should not be used for open crops at all.

And now a few words about plant nutrients being washed away with the drain water.

From Trøndelag, Braadlie has found that the quantities of plant nutrients annually carried away by drain water from tilled clayey soil and tilled bog ranged from 30 to 40 pounds of K_2O, 200 to 370 pounds of CaO, and 15 to 20 pounds of N per acre. The loss of P_2O_5, however, was very small. The two fields investigated were situated on flat land, the rainfall during the years varying from 633 to 772 millimeters.

Braadlie has found that through the six rivers that run into the Trondheimsfjord alone, the sea receives during a year over 14,000 tons of nitrogen. The quantity of N, quoted in milligrams per litre of river water, varied for the six rivers concerned from 0.6 mg. to 0.8 mg. per litre.

We have so far been considering the *natural* causes of destruction or deterioration of the surface soil. It was mentioned above that the destruction of soil may also be due to *social* causes. Under this category we have here in Norway a form of soil destruction that is due to unregulated production of peat fuel. As peat forms a fairly large portion of our fuel supply, 10 percent of the population in Norway using it for fuel, we shall go into the disadvantages involved in this industry and into the measures taken to stop or limit the destruction of soil by peat making.

In the coastal regions of western and northern Norway, where there is little forest, peat is the most important fuel. This has been the case for centuries. Because of this, the sources of good peat have been reduced greatly in many districts. The peat in the coastal districts often rests directly on rock without loam, sand, or gravel between the rock and the layer of organic material above. The removal of peat therefore transforms the land into ponds or swamps. In the course of time great areas suited for cultivation have been destroyed in this way.

When the peat has been cut, turf from more or less dry ground is utilized for fuel; that is, grass turf and heather turf. In this way, the surface humus layer is removed and the underlying mineral soil exposed to erosion. The mineral layer that is left behind is usually too shallow or too coarse-grained for any production. On the other hand, the ground might be used for grazing or for forest, if the upper layer were allowed to remain.

To those with little knowledge of these coastal districts it must seem an unwise policy to permit the soil, upon which the future existence of the population depends, to be used for fuel. The inadequate income of the population does, however, forbid the importation of fuel from other districts.

The problems connected with these questions have been discussed many times in county congresses in the last 30 to 40 years. In 1936 *Det norske myrselskap* (The Norwegian Peat Society) took up the same questions, and a soil conservation committee was appointed by the Department of Agriculture with the author as chairman.

This committee was given the task of investigating the extent of soil destruction. In addition it was charged with formulating plans to correct the adverse conditions found, to help avoid further soil destruction, and thus solve the fuel question.

When the war broke out in the spring of 1940, the collection of material for such a plan was practically completed and six reports already had been issued. During the German occupation the work of the committee was hampered and the final reports were not issued until the war was over.

The committee has issued 10 reports in all. The first 9 consider questions of more local interest. The tenth report, published in June 1946, gives a summary of the investigations into soil destruction and also proposes measures which the committee thinks must be taken to halt soil destruction. In this report is also included a proposal for a bill covering soil conservation.

From Rogaland County in the south to the Russian border in the north, there are 110 coastal rural districts affected by soil destruction. In these districts the total area of destroyed or damaged soil amounts to about 13,700 acres. Each year the destruction amounts to about 250 acres. These figures are based on data available for the years before the last war.

The following proposals of the committee are all based on the principle that the population must be made self-supporting:

1. An efficient information service regarding the production of peat required.

2. Subsidies for the building of peat-transport roads to distant peat sources, and for other cooperative enterprises necessary for the utilization of larger areas of peat.

3. The establishment of peat inspection in conjunction with certain amendments to the law.

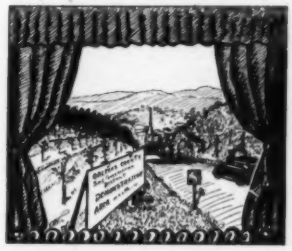
4. Extensive support required to supply electricity in the coastal districts.

5. Extended production of wood in connection with cultivation of pastures.

6. Legislation for soil conservation.

The proposed bill for soil conservation prohibits destructive digging of peat. It specifies certain minimum limitations as to the thickness of the layer of peat that must be left when excavation has been completed. The thickness of this layer varies according to the nature of the inorganic matter in the subsoil and the future use to be made of the land. The bill also includes regulations for the general use of peat land and also for the burning and removal of heather. The proposed legislation was enacted into a national soil conservation law by the Parliament in March 1949.

To sum up I will say: All our endeavor must be directed toward the conservation of the soil; that is, the plant-nourishing and the plant-producing component of the loose layers in the earth. To a country as poor in soil as is Norway, and partly unfavorably situated as to climate, the soil becomes particularly valuable. We must, therefore, see to it that the waste of soil is stopped; otherwise, conditions in several coastal districts will become steadily more difficult so that in the end we shall be confronted with problems which are nearly insoluble.



EVIDENCE ON DISPLAY.—The Orleans County (Vt.) Soil Conservation District is purchasing sites and setting up a series of small roadside demonstration areas to help educate farmers and public on the value of development and management in forestry. The first site, 1½ acres, is on the main highway between Westfield and Lowell. Others are to be located on principal highways. The SCS technician, county forester, and the vo-ag pupils and teachers in local schools are cooperating. The vo-ag groups will do the planting and other work on the tracts, under direction of their instructors, and Roger Beadle, the SCS technician at Newport, and Warren Drown, Jr., Orleans County forester.

EVERY YEAR THEY COME WINGING IN

By WILLIAM B. LITTLE

Photographs on back cover

CANADA geese, often regarded as the wildest of wild birds, are not wild at the Lockhart Gaddy goose pond, Ansonville, N. C. Geese, wild or tame, are reputedly dumb creatures. Here, again, the winter visitors to the Gaddy pond upset the generally accepted ideas about geese. They do have sense.

The decoys were real but home-grown Canada geese. One wing of each was clipped in winter and they stayed on and around a 3-acre fish pond when not being used for hunting. A few migrating geese joined them. These came back year after year and brought others with them.

On the day before Thanksgiving in 1949—the day before opening of the hunting season for geese in North Carolina—6,000 were counted here.

Gaddy is able to make accurate counts because of a habit the geese have of feeding on fields of small grain. On moonlit nights the geese are through feeding and begin to return to the pond at dawn. They come in groups. Using a field glass, Gaddy can see each group far enough away as they come in to count them all by the time they reach the pond.

Live decoys are now outlawed in North Carolina. However, approximately 1,000 of the geese reaching the Gaddy goose pond in late September and October are killed by hunters. A few cripples manage to walk back to the safety of the refuge. Some of these recover in time to fly North in the spring. Others, with badly broken wings, stay on as more or less permanent residents.

A few are crippled in a way they can be recognized from year to year. Gaddy knows of six which have been regular visitors the past 10 years. There are probably others which have been coming for a much longer time.

Mrs. Gaddy pays close attention to the crippled. One had both legs broken and moved on land with great difficulty. On seeing Mrs. Gaddy it would rise from the water and fly close to where she stood. She always saw that this one had plenty to eat. One day on reaching the pond, she found it dead at the edge of the water. It hadn't quite been able to climb out on the bank.

Grain fields within a radius of 20 miles are grazed by the geese. They usually select the larger fields where they can feed out of gun range from the wooded edges. Farmers don't complain of damage to small grain. A few believe it is improved by being clipped, or by the droppings of the geese.

It is an unusual sight to see wild game birds here where they are not afraid. The newcomers are shy to an extent, staying somewhat removed from the place where the daily ration of corn is put out.

Gaddy grows 80 acres especially for them. Still, that isn't enough for a season. He buys some corn and has a contract with a bakery to take all stale left-over bread. This amounts to about 75 pounds per day.

Feed runs into money, so during the past several seasons Gaddy had charged a token fee of 25 cents each for visitors. People have come from as far away as Canada and from most of the States in this country. Here they see a truly interesting and unusual sight.

The geese follow Mrs. Gaddy around like chickens. On a foraging trip to graze they are wild, back at the pond they immediately become tame again.

It is reported by the Soil Conservation Service that more than 167,500 farm ponds have been provided in the United States as a result of their inclusion in conservation farm plans. In addition to their many other values, these ponds add immeasurably to the Nation's fish and fowl and game resources.

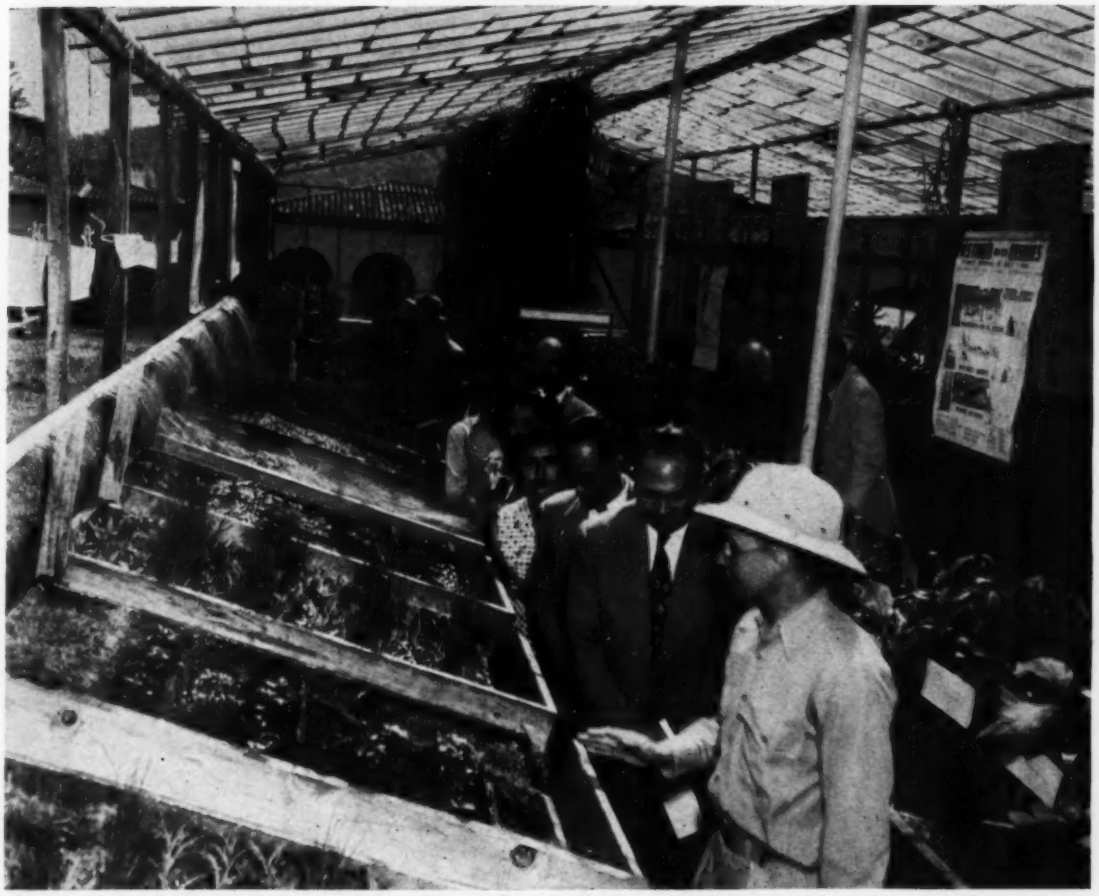
HUNDRED-ACRE CLUB.—The Suwanee River Soil Conservation District in Florida has a new kind of club, reports C. P. Anderson, president of the Florida Association of Soil Conservation District Supervisors. To be eligible, a farmer must have 100 or more acres of improved pasture. So far, there are five members.

OFFERS SCHOLARSHIP.—Middlesex County (Conn.) Soil Conservation District is sponsoring a scholarship to the fifth annual conservation workshop held at the University of Connecticut July 23 to August 5. Two college courses in conservation will be offered for credit. The scholarship will go to a Middlesex County teacher.

NOTE.—The author is soil conservationist, Soil Conservation Service, Wadesboro, N. C.

DRAMA ON WHEELS IN EL SALVADOR

By FORD M. MILAM



Manuel Chávez, in foreground, explains train exhibit to Camilo Arévalo, Minister of Agriculture. Note water being applied to plots from perforated pipe at left.

"HAD I known 10 years ago about soil conservation practices such as these, not only could I have saved my farm but I would have made a fortune out of it," exclaimed one Salvadoran farmer at the recent exposition of the *Centro Nacional de Agronomía*, cooperative agricultural experiment station of the United States and El Salvador, at Santa Tecla, El Salvador.

He was one of thousands of farmers who for the first time saw with their own eyes the great difference in soil and water loss from proper and improper farm-management practices. The Centro exposition took place at Santa Tecla November 25–27, 1949, and was taken around the country by train in February 1950. Unanimously the visitors agreed that the exhibit showing soil and water loss from runoff plots was the high light of the entire exposition. The soil conservation exhibit was planned by the author and Manuel Chávez

NOTE.—When this article was written the author was head of the department of agronomy, Centro Nacional de Agronomía, Santa Tecla, El Salvador. From 1939–41 he was cooperative agent, SCS and West Virginia University. From 1945–48 he was director of agricultural education and research, South Korea. Mr. Milam now has taken up a new station in New Delhi, India, where he will be adviser to the government on agronomy under a point-four type assignment.

Terraces on steep land near Santa Tecla, El Salvador, 1949.

Viaud, chief, soil conservation section, department of agronomy, and constructed by the Centro's agricultural engineer, Jeff E. Flanagan. The runoff plots consisted of eight boxes, 1 by 0.50 meter, placed on a 25-percent slope which could be subjected to artificial rain. Miniature examples of the following management practices were shown:

1. Coffee protected by bench terraces.
2. Corn between grass barriers on the contour.
3. Strip cropping (corn and legumes).
4. Grass mulch over the entire plot.
5. Land in good pasture sod.
6. Coffee being produced without any protection from soil and water loss.
7. Corn planted up and down the slope (common in El Salvador).
8. Gullies and their control by the use of brush, rock, and log dams.

By means of a perforated pipe connected with the main water system at Santa Tecla (and powered by a pump during the subsequent railroad tour) Chávez was able to turn the "rain" off and on at will while visitors saw the water either run off quickly, carrying with it valuable topsoil or, in the case of properly managed land, infiltrated into the soil and emerging clear with little soil and water loss.

Chávez, known as the Hugh Bennett of El Salvador, studied in the United States with the Soil Conservation Service under the program for foreign students. During the entire exposition, he demonstrated methods taught in the United States which could be applied in El Salvador. He explained, too, the tanks used to determine soil and water loss, the infiltration studies, the effective vegetative covers, the terracing, diversion ditches, grassed water spillways, grass barriers on the contour, and the reforestation of steep lands.

Such soil conservation practices are particularly needed in El Salvador because the Central

American republic is densely populated and has a low percentage of arable land. The high land pressure thus created necessitates the most advantageous utilization of the available area.

Though hundreds of visitors came to the station during the exhibition, in response to many requests the entire Centro exposition was put on four boxcars and toured the country by rail, thus reaching more than 30,000 Salvadorans. Many methods of visual illustration were used: Actual samples of the crops and products under study, colored graphs, photographs, and a miniature model farm showing best distribution of buildings and fields. Salvadoran technicians, trained at the Centro, conducted the exhibition, once it was ready, and explained to farmers the tremendous differences in loss of topsoil and water through proper and improper management. For instance, they heard that when normal topsoil was lost through erosion, yields of corn crops in El Salvador fell to 6.2 bushels per acre as compared with the 48.7 bushels produced on a farm properly managed.

As he left the exhibition, one large coffee producer commented, "This is the finest piece of work the Centro has done for El Salvador. And what's best of all, this exhibition doesn't really need explanation. It tells its own story."

SEED ALONE PAYS BILL

(Continued from page 26)

lish 5-acre observational plantings in every county in a soil conservation district in the Southeast.

The year each crop was introduced in the district program, and the acreage, quantity, and value of seed harvested in 1949 are shown in the following table:

Crop	Year introduced	Acreage	Seed harvested	Value
		Acres	*Pounds*	*Dollars*
Caley-peas	1944	15,000	150,000	15,000
Buttonclover	1945	3,000	90,000	45,000
Tall fescue	1946	10,000	315,000	157,000
				217,000

The supervisors estimate the value of seed harvested of "all crops used in carrying out a good soil conservation program" at over $400,000. As further indication of progress, they point out that farmers cooperating with the district, as compared with accomplishments in 1948, achieved the following results in 1949:

Improved 8,582 acres of pasture—90 percent increase.
Seeded 5,767 acres of pasture—111 percent increase.
Drained 2,423 acres.
Excavated 20 miles of drainage channels—233 percent increase.
Planted 1,127 acres of water-disposal areas—103 percent increase.
Planted 2,850 acres of sericea—166 percent increase.
Planted 3,107 acres to alfalfa and perennial grasses—295 percent increase.

Commenting on what the district program has meant to cooperators, Carl T. Jones, of G. W. Jones & Sons, a district cooperator in Madison County, said "on-the-ground land-use planning" had been of material benefit on their farm because crops were in all cases suitable to the land.

"We now have 650 acres of certified Suiter's grass (Kentucky 31 fescue) of which we are quite proud," Jones commented, "but in establishing these plantings many problems arose which, but for the assistance of the Soil Conservation Service, might have proved disastrous."

BARTE of NEW MEXICO

(Continued from page 32)

Association of Soil Conservation Districts, Barte attended the National Association meeting in Atlanta at his own expense. There he and various western conferees devoted most of their time to planning a program to get Federal and State agencies controlling public lands to carry out proper conservation measures on the public domain.

"The Federal and State Governments urge farmers and ranchers to conserve soil, so why shouldn't these same agencies practice conservation on the lands they control?" Barte asked.

Following the Atlanta meeting, Barte and his associates went to Washington for conferences with chiefs of Federal agencies handling public lands. They proposed that appropriations be made to establish conservation programs on the public lands, and that the work be carried out in cooperation with soil conservation districts.

"Our proposal was favorably received, and the agency chiefs said they were willing to work with districts," Barte reports. "However, it was too late to get the necessary appropriations this year, but we are hoping for success next year."

Lee Barte has had a colorful career since stepping into his father's shoes. He somehow finds time for such things as photography, fishing, and hunting. He holds a lieutenancy (JG) in the Naval Reserve, is a member of the Reserve Officers Association, a member of the agricultural board of the Albuquerque Chamber of Commerce, a member of the advisory board of the New Mexico Game Protective Association, is active in the Farm Bureau, and is a member of the Presbyterian Church.

—VIRGIL S. BECK.

BUILDINGS OR FARMS?

By HENRY C. LINT

ONE Saturday afternoon Bob Anderson (now agricultural attaché in Prague) and I went shopping for phonograph records on Kurfurstendamm in Berlin. In one of the stores we ran into Ericka, a salesgirl unusually well versed in phonograph records. After about two revolutions of any record she could tell the selection, the artist, and all other particulars. After we got to know her, Ericka would bring records out to our house, play them, and take back the ones that didn't suit our taste. Incidentally, the chance to get a good meal may have had something to do with the super service.

No records explaining land capability have been stamped out by Telefunken or Electrola, but indirectly my interest in records resulted in one of my best lessons in land capability. To show her appreciation for our purchases and possibly the meals, Ericka once invited me out to her house for Sunday dinner. Her parents' home was on the far side of Russian-occupied Berlin, fully a mile from the elevated station and on the very edge of open country. Her family had a plot of ground about 40 by 125 feet and every square inch was planted to some sort of edible plant. Two 20-foot rows of corn spelled the possibility of supporting a few chickens. One less rabbit inhabited the pens that Sunday than the day before. Ericka's mama turned something really tasty out of Br'er Rabbit—as nice a meal as I ever had. (You can guess who supplied the coffee and the sugar for the cherry pie.)

Their sandy loam soil was "A" slope and might rate green, certainly yellow, by our chromatic scheme of portrayal. But capability there wasn't measured in terms of economics, profits, or permanent agriculture. Production spelled the capability of staying alive. The capability of the window boxes in prewar times was probably to produce four geraniums, but under 1946 conditions, its capability was three or four messes of string beans. One has to see front lawns of $75,000 homes turned into potato patches, and tomatoes growing on the island between a pair of streetcar tracks, to appreciate that land capability is synonymous with the possibility of existence.

It's probably the Berlin background, with recollections of the trip back from Ericka's, that makes me know "valuable" isn't the right word for land. "Precious" is better. I've ridden New York subways for years and thought I'd seen everything by way of crowding. But if you'll picture the same number of customers per car as in New York, and then imagine each passenger with a rucksack full of lettuce, beans, and what-have-you, then you can appreciate the ultimate in coziness of travel on the U-Bahn. Friends in need and friends indeed wasn't merely a line of poetry to the Berlin mid-city dwellers and their suburban acquaintances; land use wasn't simply the basis of physical nourishment. Its roots went down to the deepest emotions of love and gratitude that only people in need can begin to fathom. Once you see the true connection between soil and existence, you realize that the man who allows his land to wash away isn't just a poor farmer—he's at least a saboteur.

Working now in a soil conservation district where it is only 5 miles from the office to the George Washington Bridge and 25 minutes to Yankee Stadium makes me sense how priceless could be the capacity of our soils to produce if ever New York should become such a fearsome sight as is the German Capital today. Berlin, with its 3,000,000 people, surrounded by fairly good agricultural land in all directions, would be a gourmet's paradise compared with metropolitan New York's 10,000,000, under duplicate conditions.

Twenty-five years ago, there were cornfields at Jackson Heights on Long Island. It's not more than 4 miles from the Fifty-ninth Street Bridge. The inevitable happened. Today, five-story apartments occupy the site. That land no longer has the capability to produce food. Within the past few years, Bergen County in New Jersey has been the scene of a tremendous building program. Whole farms have vanished before the bulldozer and the builders' tools. True, people need homes, but with my recollections of land capability as the only antidote for starvation I'm wondering whether or not we are sawing off the limb we're sitting on.

If we were to take a long-range view of land capabilities, maybe we would say that the green

NOTE.—The author is district conservationist, Soil Conservation Service, Hackensack, N. J.

land and the yellow land and even the red land need to be kept in farms, if only as insurance against the worst eventualities. The reason the real-estate developers prefer the nice open farm land is that the initial costs are lower. Class VII land is sometimes better from a scenic standpoint, but blasting cellars out of solid rock, clearing trees, and bringing in soil is expensive. Laying gas and water mains costs more, too. If we could but develop a consciousness of how priceless the first three classes of land can be under certain conditions—which Heaven forbid may ever be visited upon us!—then maybe location of the good land we are conserving for future generations might be an additional consideration in planning. An acre of Class III land, 5 miles from a city, is worth many times as much as an acre of Class I land 50 miles away when there is no transportation.

Just as a city's zoning laws now classify areas for business, manufacturing, or residential uses, so perhaps the town fathers some day may decide that John Doe's farm has too high a capability for food production to permit it to fall to the bulldozer and the building contractor. Now, you may begin to see why anyone would almost have to serve an apprenticeship in a war-torn area and then be plunked down in a metropolitan soil conservation district to get excited over such aspects of land use and misuse.

One feature of the land-use picture that also is most important in metropolitan areas is monetary values. It's difficult to turn down $100,000 for 20 acres but I know two farmers who have done just that. It's not that they are holding out for more money, it's because they want to keep on farming land that has been in the family since some remote ancestor bargained it out of the Indians. These two are notable exceptions.

Another aspect of metropolitan agriculture that serves to drive people from the farm is taxes. Thanks to heavy building developments roundabout, a parcel of farm land automatically is burdened by appraisals and assessments out of all proportion to its agricultural earnings. Farms get taxed unrealistically for water mains and sewers installed along their frontages. A trunk sewer line can easily be the last straw. One of our supervisors has to pay $75 an acre in taxes before he even starts farming operations. One arm of government helps him to grow things efficiently and save his soil, while another more or less unconsciously operates to drive him out of business.

In some places the farmer does have a slight preferential treatment from the tax assessor but, even there, the sound reason for so treating farm values should be due to a universal appreciation of land capabilities, not merely an accidental finding of an assessor who happens to know something about farming. Some day those good acres that are still left in farms conceivably might have a value in sustaining the population out of all proportion to any dollar value. One has to see supposedly valuable jewelry converted into a few pounds of butter to know what things are really valuable when things get rugged. There are no calories in Meissen china.

In the army one learns the meaning of logistics and gets an insight into the tons and tons of material that must be moved to support a fighting unit. Recalling all of the difficulties we encountered in trying to move something like 100,000 tons of potatoes from Bavaria northward over a disrupted railroad system makes me anything but envious of a military commander with a hungry New York on his neck and food supplies from the west cut off.

Of course, we have many acres in the Northeast Jersey district that could be thrown into some sort of emergency production of food. The presently cultivated areas would suffice to feed the population of the district less than 2 days of the year.

It is not inconceivable that our land-capability maps one of these days will help to blueprint urban expansion. Someone will look at the map and say "This green, yellow, and red land simply has to stay in farms." In appreciation of the true value of good land, it then will be said, "Build your houses and factories on the Class VII land."

The first line, as well as the last line, of defense—to this conservationist—is where good acres equal population needs.

COWS LIKE SERICEA.—In some areas where sericea is not generally known, farmers think livestock won't eat it. When farmers held a meeting recently in the Greenmount section of the Laurel County Soil Conservation District in Kentucky there was on exhibit a bale of sericea hay that had been cut at the proper stage. Several farmers took some of the hay home with them to see how their stock liked it. At the next meeting, all reported their livestock ate it greedily, one reporting that his cattle ate it in preference to annual lespedeza.

Willie Cornett, a supervisor of the Clay County Soil Conservation District, recently observed that although he had had his cattle on sericea only a short time he could tell they were putting on weight.

REVIEWS

OUT OF THE EARTH.—By Louis Bromfield. Harper & Brothers. New York. 1950. 305 pp. Illustrated. $4.

Like a May morn at Malabar, Bromfield's latest land book comes crisply fresh and stimulating. It is a book of ideas, experiences, and convictions with a wee dash of vinegar—a forthright product of farmer, scientific reporter, and patriot.

There is much substance in "Out of the Earth." Its writing contains the charm and sustained interest of a great novel but there is in it also the stern quality of annotated history—the gain-by-gain story of a vast countryside (notably the South) returning to beauty and productiveness.

Louis Bromfield's own Malabar Farm is, of course, a prime example of once-barren fields now lush and healthy, an 11-year transformation brought about by methods which Nature approves. Its acres have been protected from erosion, fed with organic materials, guarded against misuse and overuse, given the benefit of the latest and best management methods. Malabar's good steward has applied here the choicest ideas stored up during his extensive ramblings in this and other countries. He has adapted as readily a good European drainage practice as a good grass-legume mixture developed in the United States. The clear streams and the deep, cool swimming pools he knew as a boy have returned to Malabar. The roots of his alfalfa penetrate the soil as deep as 12 to 15 feet. His cattle thrive on a minimum of grain feeding. All life on Malabar—plant and animal—conveys an impression of well-being that belongs to an agricultural husbandry that is intelligent and dutiful.

Occasional sinners will find fault with "Out of the Earth." It pokes at lazy and inept and red-tapish government. It draws conclusions, at times, with a lightheartedness at variance with the traditional style of orthodox research. But there is no gainsaying the results obtained at Malabar, or the value of the Bromfield impulse all over the United States. There is a disarming blend of humility and pride in Louis Bromfield as he extends the Malabar pattern to yet another tract in Texas. There has been too little comment in the press on the importance to the soil conservation movement of Bromfield's missionary achievements in business, agricultural, and cultural circles, and particularly through the appeal of his writings. He has won his popularity through high personal character and dedicated service. In fiction and nonfiction, on sound screen, as an accomplished speaker, he reaches millions with his message of land regeneration. "Out of the Earth" is a book that will, and should, be read by the banker and his wife, by the college sophomore and his chemistry teacher, by the chamber of commerce manager and his secretary. It should be read and pondered by every dirt farmer, wherever he lives.

Bromfield's work is always rich in lights and shadows, but for good measure he includes a 32-page section of magnificent photography, mostly by Joe Munroe, which helps to nail down his testimony.

If we will but give heed to the story he tells, we may very well share the author's cheer: "The good farmer of today can have all the good things that his father knew and many that his father never knew, for in the modern world he lives with all the comforts of a luxurious city house plus countless beauties and rewards forever unknown to the city dweller." —WELLINGTON BRINK.

RURAL SOCIAL SYSTEMS. By Charles P. Loomis and J. Allen Beegle. Prentice Hall, Inc. New York. 1950.

Here is a book, the first in fact, which presents essentially the same concept on which the work with "neighbor groups" in the Soil Conservation Service has been based. Loomis and Beegle, with firm conviction, believe that the group of greatest importance next to the family is a small, informal group, which they term the clique, informal friendship, or mutual-aid group. The groupings are based on friendship developed at work, play, or other types of interaction. In case of misfortune the members of such groups are the first to offer assistance or consolation and in the case of attainment or good fortune they offer congratulations and praise. The most important of the characteristics are the unlimited responsibility of one for all and all for one, and the solidarity which results from converging sentiments and interests.

The authors point out that in view of the tremendous importance of these groups it is difficult to understand why so little attention has been given to them by rural sociologists. They point out that perhaps part of the explanation is the great variety of groups and the many terms by which they are known. People commonly refer to such groups as their "crowd," "set," "neighbors," "friends," "group," and so on. Another reason they have been ignored is because, like the air, they have been taken for granted. Also rural sociologists have placed great reliance on the categorical questionnaire or field schedule, particularly in locating the so-called "neighborhoods," which technique has tended to bound such "neighborhoods" geographically and thus ignored the clique or friendship group. Almost all American rural sociologists place great stress on what they call the "neighborhoods." Most of them consider it a locality group, geographically bounded but also having the nature of the friendship or clique group. The authors comment that rural sociologists of the past have been very unrealistic in considering "neighborhoods" as synonymous with cliques, friendship, or mutual-aid groups.

Loomis and Beegle point out that often in the past rural sociologists have talked of the necessity of finding "handles" with which to work with the people in farming areas. Beginning with the early investigators, who invented techniques for studying and describing locality groups graphically, rural sociologists have thought that these groups were the "handles." Dozens of bulletins have been written about such "neighborhoods" and other locality groupings, but few thought of looking for the most useful "handle," the leader of the clique or friendship group.

The authors tell of a number of studies in which these informal groups have been identified and described. Of

one such study conducted in a county in Michigan they say that although no "neighborhood" delineation specialist can find neighborhood locality groups in a large proportion of the county, anyone can find cliques and mutual-aid groups everywhere. The leadership of these groups is stated as being very important for successful education or promotional work and for the administration of action programs.

On pages 681 to 687 the work of the Soil Conservation Service along these lines is described. In addition, the book includes a wealth of information about "neighborhoods," communities, and other phases of rural sociology.

This book should prove invaluable to agricultural workers as a guide to developing effective methods for understanding and working with rural people and their leaders in educational and promotional activities, and particularly in administering action programs.

—H. W. Ream

RAISING GAME BIRDS IN CAPTIVITY.—By David B. Greenberg. D. Van Nostrand Co., Inc. New York. 1949. 224 pp. Illustrated. $4.95.

This book comes from an especially well-qualified author. He was formerly professor of poultry husbandry at New York State School of Agriculture and has had practical experience on his own game farm for 9 years. This experience, plus the fact that he has procured material from many sources, including universities, State game departments, and commercial breeders, has resulted in a book which furnishes complete and up-to-date information.

The author has explored in detail and given a description of the various methods of raising game birds from the mating of the adults to the final disposal of the product. He not only covers the better-known upland game birds but also devotes an entire chapter to waterfowl. All phases of game-bird raising are discussed, including artificial incubation and brooding, natural means of hatching and rearing, nutrition and feeding, as well as many others.

Generally, biologists, in making recommendations to farm planners, place less emphasis on stocking of game birds than does the author. The trend of modern game-bird management is more towards habitat improvement and better regulation of the kill. However, soil conservation practices which benefit wildlife habitat on the farm very often prove fruitless because of the lack of a source of game-bird seed stock, either natural or artificial. For this reason alone the information available in this book will be of value to many farmers who are interested in producing game birds on suitable areas on their farms. Not only can birds be produced for stocking an individual's own farm by applying the methods described, but surplus birds can be raised for sale. Thus, an additional source of income is provided, which is always desirable in modern diversified farming.

—Merle A. Gee.

APPRECIATION FOR CRAIG.—Cooperating farmers of the Greenwood (S. C.) Soil Conservation District presented Johnson Craig, work unit conservationist, a fine wrist watch during their celebration of the district's tenth anniversary. Craig was praised for his 10 years of valuable service to local farmers.

NOTES FROM THE DISTRICTS

Winners: The Center Conservation Neighbor Group, which captured vetch-planting prize.

VETCH CAMPAIGN.—One day in the summer of 1949, Gene Foster, vocational agriculture teacher, hit on an idea for getting more cover crops on peanut land in north Texas. The supervisors of the Upper Elm-Red Soil Conservation District and the merchants of Whitesboro got behind it.

Signs—"Let's Plant Vetch" and "Ask Your Neighbor About Vetch"—went up in all the business houses at Whitesboro. Car stickers on windshields proclaimed loudly, "For Land's Sake, Plant Vetch!"

The slogans captured the imagination of farmers from the Red River to Tioga and from Southmayd to Calisburg. When the final count was taken last fall about 8,000 acres of vetch had been planted on sandy peanut land where only 500 acres had been planted before.

Prizes donated by Whitesboro businessmen went to the neighborhoods that planted the most vetch. The Center neighbor group won first place. The group received 200 pounds of phosphate and seed sufficient to plant 10 acres of vetch on one of the farms for seed production. Other winners were Dixie, Sadler, and Emerson Chapel.

Whitesboro plans another vetch-planting campaign this fall. This time they expect farmers to double the acreage.

CITY FARMERS.—Eight businessmen in Davenport, Iowa, who also own farms, have formed their own farm-planning group for easier cooperation with the Scott County Soil Conservation District. Living in a town of nearly 100,000, the businessmen cannot form a neighborhood group in the usual sense. So the planning meetings are preceded by a dinner at a club where the group gathers.

The 8 landowners, representing 10 farms in the district, are enthusiastic about their conservation plans. They have selected Lloyd Platt, a commercial nurseryman, as the group's leader. Most of the farm operators attend with the owners.

Other businessmen who own farms are becoming interested in forming similar planning groups. They take part in discussions more readily than when they are among rural groups. They can also attend regularly because the meetings are adjusted to their convenience.

BANKERS BUY SUBSCRIPTIONS.—The Monroe County (Wis.) Bankers Association is providing funds to defray costs of subscriptions to SOIL CONSERVATION Magazine for all 1950 soil conservation district cooperators in its territory.

PLANES SEED CALEY-PEAS.—O. J. Walls, of Guntersville, Ala., used planes to sow 10,400 pounds of Caley-pea seed on 260 acres. The cost was $1 per acre. Had he stuck to conventional methods he would have been too late for planting. The owner of Hobbs Island had already planted 75 acres on his farm by ground implements when he decided to take to the air.

Hobbs Island, planted to corn each year, needed a winter cover crop. Walls knew this, but late picking and occasional high waters made troublesome the planting of such crops. After talking with farmers and others in the Northeast Alabama Soil Conservation District, he decided Caley-peas would be his best cover crop because of their habit of reseeding themselves.

By letting a different field of peas mature seed each year, Walls figures he will soon have volunteer stands on the whole island, thus making further seeding unnecessary. Pasture and livestock are included in his complete soil and water conservation plan.

RECLAIM FIRE-SWEPT AREAS.—Two Maine soil conservation districts—Oxford and York—have started to reclaim 260 acres in the 1947 fire-swept forest areas. The York County district has received a gift of 160 acres from the town of Lyman and has started the planting of young stock. The Oxford County district, given 100 acres at Brownfield by Leon Brooks, a poultryman, will have its reforestation program under way in a short time. Both programs are long-range activities in which replanting will be spread over several years, because the districts operate on a limited budget. In addition to reforestation other good forestry and conservation practices will be applied as a demonstration of what can be done by private landowners through cooperation with the 15 Maine districts.

York County Soil Conservation District got reforestation started when conservation and forestry leaders, Boy Scouts, and forestry 4–H Clubs, working under SCS technicians, planted white and Scotch pines, tatarian honeysuckle, silky cornel, and multiflora rose.

Philip Andrews, chairman of the Oxford Soil Conservation District, says the Brownfield tract will be utilized to demonstrate what can be done to reclaim forest cover and organic matter lost during fires. Practices will include pruning of existing timber to obtain more clear-cut lumber, thinning and release cutting to allow space for proper growth, and development of fire lanes and woods roads for future fire protection and ease in logging.

Plantings will include multiflora rose for fencing and cover, development of travel lanes for wildlife, wildlife borders, and sanctuaries. Cooperating with the district and SCS in the Brownfield project are State and Federal forest services, 4–H Clubs, Boy Scouts, Future Farmers, and other organizations. The Western Maine Forestry Nursery, Fryburg, is donating odd-lot seedings.

Strange aspect of the situation at Brownfield is that about the only standing green timber of value in the 100-acre tract was partly flooded by a beaver dam. The overflow saved the trees at the time of fire but now will destroy them unless the dam is removed. Permission for this action is being sought from the State.

Bankers' committee: H. D. Fields, St. Jo; L. O. Gardner, Sherman; Claude Jones, Gainesville (chairman); J. M. Weinazpfel, Muenster. Absent was James McCall, of Nocona.

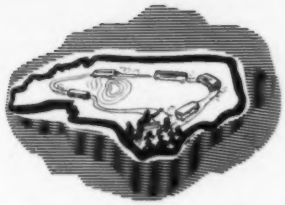
RALLY CITY ELEMENTS.—The 16 banks in the Upper Elm-Red Soil Conservation District in north Texas feel that soil conservation no longer is solely the farmer's job. They set up a committee to work with district supervisors on conservation. Claude Jones, of Gainesville, was named general chairman. Others were James McCall, H. D. Fields, J. M. Weinzapfel, and L. O. Gardner, representing each of the five zones of the district.

One of the first moves the bankers and supervisors made was to invite newspaper editors and radio-station managers in the district to a meeting, as a result of which the newspapers and radio stations formed a separate organization in support of the district program.

The district supervisors are working to extend the plan to industrial leaders, the clergy, civic clubs, and other important elements.

Bankers joined with district supervisors in sponsoring an awards program at Gainesville as part of Soil Conservation District Week. They were instrumental in getting the annual convention of the Texas Bankers' Association to adopt a resolution giving the association's active support to the soil conservation district program.

Chairman J. W. Hess and fellow supervisors Ed Blackmon, V. W. Redman, Willard Kemplin, and John B. Rice can take credit as one of the first boards of district supervisors in the country to gain support of bankers, editors, clergymen, and civic and industrial leaders through group organizations.



SPEAKERS VIE.—A total of 625 Negro high-school students took part this spring in a speaking contest on the subject, "The Social Aspects of Soil Wastage," sponsored by the North Carolina Bankers Association in 16 North Carolina counties. One of the rules of the contest was that each contestant must attend a tour supervised by an agricultural worker to observe the effects of misused land. Elimination contests were held within each of the 48 schools participating and at county, district, and State levels. Prizes totaling $1,925 were awarded.

First prize winner was Joshua Lee Davis, Jr., of Eastman High School, Halifax County, who received $400 in U. S. savings bonds. Second and third prize winners of $100 and $50 bonds, respectively, were Margie Edwards, Patillo High School, Tarboro, and Spargon Fitts, Warren County Training School. S. J. Hodges, Negro Extension agronomist, had charge of the contest.

LEVELING LESSENS WASTE.—George C. Crawford now has a lot more time to operate his 80-acre farm in the Escalante Valley west of Cedar City, Utah. It grew from a dislike of irrigating on the diagonal, which varied the length of his runs.

The nature of his cropping system in relation to his supply of water made the end furrows much shorter than the center. This caused him to lose time and waste water.

On recommendation of SCS technicians assisting the Iron County Soil Conservation District, of which he is a cooperator, he leveled 35 acres after his 1948 potato crop was harvested. Using a tractor and carryall, the cost was only $41.25 per acre.

In 1949 irrigation time was cut 25 to 30 percent, and he estimated the amount of water used was reduced at least one-fourth. Plans are under way to level his entire farm.

"Considering costs of labor, pumping, and water, I figure that when a farmer can irrigate 35 acres in the time required to water 25 acres of unleveled ground—using an equal head of water—he can't afford not to level his croplands," Crawford says.

RESEARCH FARM.—In an effort to get local data, a farm where research work will be done in cooperation with Soil Conservation Service has been rented by the Maine Experiment Station. John W. Slosser, SCS project supervisor stationed at the university, has set up equipment there and is ready to operate. The study will seek to determine how much runoff can normally be expected for storage in farm ponds, from which it later will be withdrawn for spraying, irrigation, and other production purposes.

PLANNING 43,000 ACRES.—Directors of the Lewis County (N. Y.) Soil Conservation District have approved the application of the Fisher Forestry & Realty Corp. for the conservation planning of 43,000 acres. Most of this land is in Lewis County, the small remaining portion being in Herkimer County. While the long-range program has development of wood products as its goal, in the earlier years operations will be directed toward recreational improvements. The district will utilize technical assistance provided by the Soil Conservation Service and the New York State Conservation Department. It may be 5 years before the planning job is completed, and as many as 50 years before full establishment of the plan. Long-range establishment is necessitated by cutting operations that normally prevail.

Committee: Mrs. J. Bruce Parks, Mrs. Sherrell Vinson, Mrs. W. H. Hardcastle, Mrs. Jaye Roundtree, Mrs. Jack Kirby (chairman), and Mrs. Elmer Campbell (hostess).

GRASS WOMEN.—When the Bosque Soil Conservation District in central Texas announced a Ladies' Range Day, more than 50 ranchers' wives turned out. Husbands stayed home.

The idea occurred to Mrs. J. Bruce Parks 2 years ago when the district held a range field day for men on the Parks ranch. The womenfolk stayed at the house and barbecued meat for their husbands.

"It ought to be reversed," Mrs. Parks remarked. "We should have a range day all our own and leave the men at home."

Mrs. Jack Kirby, chairman of the committee, helps her husband seed grass from horseback on their range. She's just as proud of a good stand of King Ranch bluestem as her husband is.

Mrs. Elmer Campbell was host on her 17,000-acre place near Morgan. Campbell went along to open gates. The only other men present were SCS technicians assigned to the district. The women kept them busy answering questions about bluestem, three-awn, sideoats grama, bunchgrass, tobosa, Indiangrass.

The district plans to make Ladies' Range Day an annual event.

Friends from Canada are welcomed on pond in wildlife sanctuary established by Lockhart Gaddy

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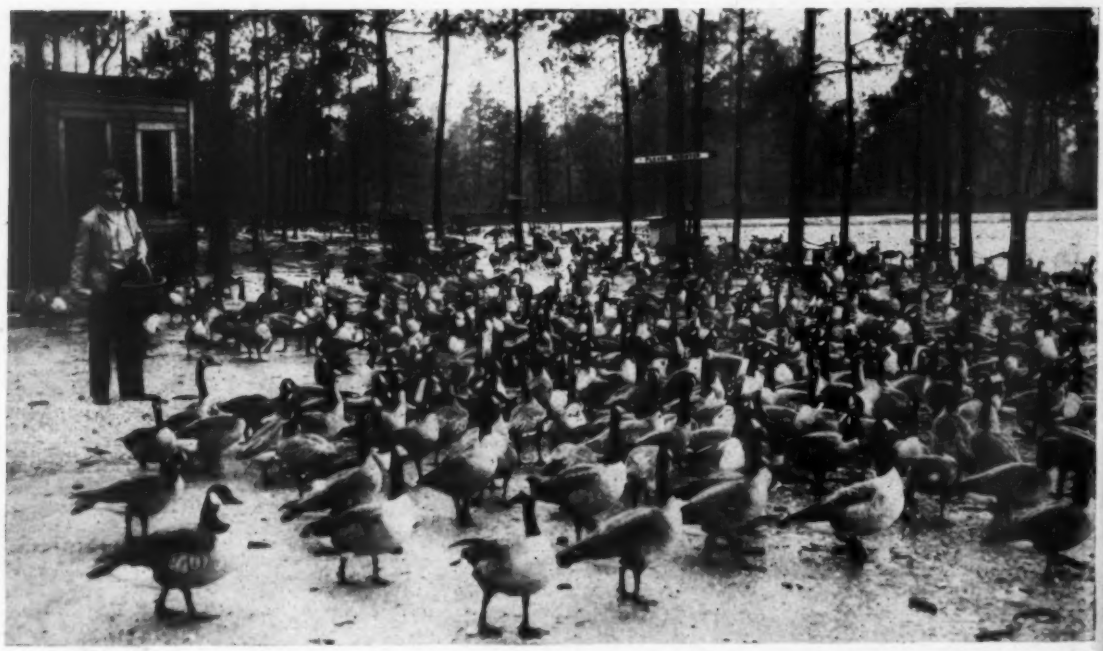
See article on page 38

"Every Year They Come Winging In"



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